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ENERGY = MC²... THE MICHIGAN COMPUTER CONSORTIUM MAGAZINE

ISSN: 0740-2759

DECEMBER 1985

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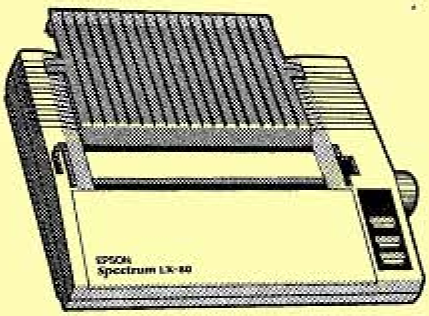

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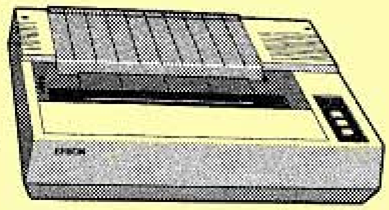

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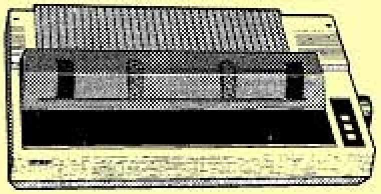

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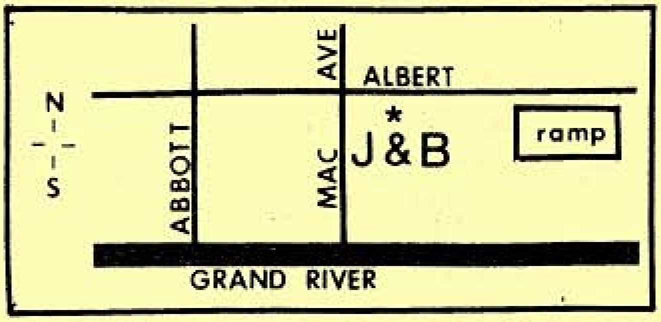

NOVEMBER 1985

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CONSORTIUM CALENDAR

DECEMBER 1985

JANUARY 1986

SU	MO	TU	WE	TH	FR	SA
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SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3 M36 EXEC	4 LAMALUG LACC	5	6 CMARC	7 CCUG
8 Hanukkah	9	10 TI USERS GROUP ACM	11 HEATH SIG	12	13	14 DRUG
15 ENERGY DEADLINE	16	17 UPCO (IBM PC) CMTUG M36	18	19	20	21 CHAOS APPLE LUG
22	23	24	25 Christmas	26	27	28
29	30	31 New Year's Eve				

LANSING AREA COMPUTER CLUBS

ACM (Association for Computing Machinery)
Meets: Usually 2nd Wednesday, 6:00 pm (dinner);
7:30 pm (meeting); Quality Inn, Lansing
Contact: Lew Crippen 377-6636 (days) 371-3179 (evenings)
Mary Dike or Walt Davis 377-6636 (days)

Apple LUG (Lansing Users Group) (MC2)
Meets: Third Saturday, 9:30 A.M.
102 South Kedzie Hall, MSU, East Lansing
Contact: P.O. Box 27144, Lansing, MI 48902
Gary G. Martin 394-0115 after 6pm

CCUG (Greater Lansing Color Computer Users Group) (MC2)
Meets: First Saturday, 1:00 P.M.
East Lansing Public Library, 950 Abbott, E.L.
Contact: P.O. Box 14114, Lansing, MI 48901
Terry Feichtenbiner 371-1594

CHAOS (Capitol Hill Atari Owners Society) (MC2)
Meets: Third Saturday 9:00 AM
Foster Community Center, 200 N. Foster, Lansing
Contact: PO Box 16132, Lansing, MI 48901
Leo Sell (president) 393-7792

CMARC (Central Michigan Amateur Radio Club)
Meets: 1st Friday, 8:00 pm
American Red Cross Bldg.
1800 E. Grand River, Lansing
Contact: Ken Noble W8JYB 372-0994

Comp Klub of Lansing (TI Users Group)
Meets: 2nd Tuesday, 7:00 pm
River Front Community Bldg 501 N Cedar St, Lansing
Contact: John Hayes 882-7860; Eugene Loyd 394-1494

The Commodore Club (of St. Johns)
Meets: Every Tuesday night, 7-10 pm
Contact: David Smalldon 689-5963, evenings

DECUS GLLUG (DEC Users Greater Lansing Local Users Group)
Meets: Approximately every 2 months at a local DEC user
Contact: C. M. Watson (secretary) 483-1111 (days)

DRUG (DEC Rainbow Users Group)
Meets: 2nd Saturday, 11:00 am
Institute for Family & Child Study
Home Management House #2, MSU (next to Berkey)
Contact: Jeffrey Weihl 353-3717 (days) 349-6967 (evenings)

Epson Users Group
Contact: Ted Bozarth 332-3710 (after 8 PM)

LACC (Lansing Area Commodore Club)
Meets: First Wednesday, 7:00 PM
All Saints Episcopal Church, 800 Abbott, E.L.
Contact: PO Box 1065, East Lansing, MI 48823
Jae Walker (president) 351-7061

LAMALUG (Lansing Area Mac and Lisa User Group)
Meets: First week of month; different day each month
Scofes Restaurant, 2609 S. Cedar, Lansing
Contact: Dick McCarrick (at Computer Consignments, 394-4408)
Charles Winters 787-5731; Mark Rosenberg 351-0635

M36 (Mid-Michigan Microcomputer Group) (MC2)
Meets: Third Thursday (usually), 7:30 PM
East Lansing Public Library, 950 Abbott, E.L.
Contact: PO Box 1302, East Lansing, MI 48823
Warren Wolfe (president) 337-7672
Executive Meetings: First Thursday, 7:30 PM
Beggar's Banquet, 218 Abbott, East Lansing

M36 CMTUG (Central Mich. TRS-80 Users Group) SIG (MC2)
Meets: Third Tuesday, 7:30 PM
Foster Community Center, 200 N. Foster, Lansing
Contact: Lee Hodges 669-3258

M36 CP/M SIG (MC2)
Meets: Last Thursday, 7:30 PM
Foster Community Center, 200 N. Foster, Lansing
Contact: Greg Martin 484-5850 or Tim Childs 321-4072

M36 Heath/Zenith SIG (MC2)
Meets: 2nd Wednesday, 7:30 pm
All Saints Episcopal Church, 800 Abbott, E.L.
Contact: Tom Trana, PO Box 829, East Lansing MI 48823

M36 Osborne SIG (MC2)
Meets: Last Saturday, 1:00 pm
(In a member's home: call for directions.)
Contact: Larry Tirone 484-3921

MSU MUG (MSU & Capitol Area Macintosh Users Group)
Meets: Monthly during MSU school year
Contact: John Sykes 332-6720

U.P.C.O. (Users' Personal Computer Organization--IBM PC group) (MC2)
Meets: 4th Tuesday, 7:30 PM
Agricultural Engineering Bldg., MSU
Contact: Skip Osterhus 321-3425

Clubs designated (MC2) are members of the Michigan Computer Consortium.

This listing is as accurate as the information we receive. To list an event or update information, contact Joe Werner at 337-7415 (evenings), or on the local BBSs BabbleNet or LSJ Access, or via MCI Mail (JWERNER).

ABOUT ENERGY

ENERGY (ISSN 0740-2759) is published monthly by the Michigan Computer Consortium, Inc., P.O. Box 1302, East Lansing, Michigan 48823.

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Subscriptions to **ENERGY** are provided as a benefit of membership in one of the clubs constituting the Consortium. Subscriptions are not otherwise sold. For information about joining one of the clubs in the Consortium, write the club at the address above.

ABOUT THE MICHIGAN COMPUTER CONSORTIUM

The **Michigan Computer Consortium** (MC2) was formed in 1983 to sponsor joint activities involving member computer clubs. Current members are:

- AppleLUG (Apple Lansing Users Group)
- CCUG (Greater Lansing Color Computer Users Group)
- CHAOS (Capitol Hill Atari Owners Society)
- M3G (Mid-Michigan Microcomputer Group)
- UPCO (Users' Personal Computer Organization)

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ADVERTISING

Advertising in **ENERGY** is an economical way to promote your products or services to well over 500 bona-fide computer users in the Lansing area. Four sizes of ads are available, with discounts for multi-issue contracts. Camera-ready ad copy is needed by the 15th of the month preceding publication. Limited graphics artwork is available at an extra charge. For more information, contact our Ad manager, listed above.

ARTICLE SUBMISSIONS

We encourage your article submissions. Contact your club's Editorial Board representative. We use compressed mode printer copy, with 3.5 inch columns and 8 lines per inch. Deadline for articles is the 15th of the month preceding publication.

OUR COVER ARTIST

Joe Taylor, whose artwork has graced the covers of **ENERGY** this year, is a professional artist living and working in Chicago. He works in many forms: oils, sculpture, stained glass, etc. He can be contacted at 607 [illegible] Buckingham, Chicago IL 60657.

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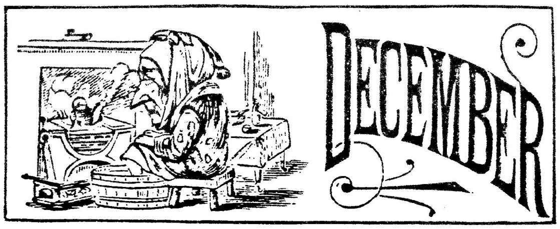

FROM OUR AD MANAGER

My name is Alison Hazzard and I have been officially "roped" into being the new **ENERGY** advertising manager.

Actually, I really like the job. It gives me a chance to go around town and meet all of the members of the Michigan Computer Consortium and find out what is available for them. You would be surprised how much Lansing has to offer to computer freaks like us! Good products, competitive prices, and great selection - not to mention consultants that can help you with any hardware or software problems.

ENERGY offered me $50,000 to do this job, but I turned it down because they have such a tight budget here. Actually I'm just an independent business person like many of you. My specialty is executive search (for computer people, of course) plus other personnel consulting. (End of MY advertisement)

One reason I became ad manager is because I believe in it. I have found the readership is very knowledgeable and are always purchasing new equipment. Since a quarter-page ad is only $15, and it is focussed right on the computer community, I think it is a helluva deal for advertisers.

But for advertisers to continue to support our worthwhile magazine, and for the magazine to continue publication, we members must tell advertisers that we see their ads. Better still, buy the products or services and THEN tell them where we saw the ad. You can bet they'll be lifelong supporters after that.

So for you members: support our advertisers. And for you advertisers: we've got the best bargain in town, zeroed in on YOUR market, so please continue your great support!

M^{3}G

MID
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MICROCOMPUTER
GROUP

ABOUT M3G

Mid-Michigan Microcomputer Group (M3G) is a non-profit organization of computer hobbyists, enthusiasts, and users in the Lansing and Mid-Michigan area. Formed in 1975, M3G is the oldest personal computer organization in the area, and one of the pioneer organizations in the country. Membership in the club is open to anyone with an interest in personal computing.

MEETINGS

General Membership meetings are held each month, generally on the third Thursday of each month (barring scheduling problems), at 7:30 pm, at the East Lansing Public Library, 800 Abbott Road, East Lansing. Executive Committee meetings are held on the first Thursday of each month at 7:30 pm, at Beggars Banquet restaurant in East Lansing.

DUES

Annual dues for M3G are $12.00, for 12 consecutive months. Family memberships (two or more people at the same address, receiving only one copy of the Newsletter) are available. The Master member pays full dues; additional family members joining at the same time each pay $1.00 per year.

To join M3G, come to any meeting, or send one year's dues with your name and address to: M3G, c/o P.O. Box 1302, East Lansing, Michigan 48823.

AFFILIATIONS

M3G is a member of the Midwest Affiliation of Computer Clubs (MACC), and of the Michigan Computer Consortium (MC2).

NEWSLETTER

M3G members receive ENERGY, published by the Michigan Computer Consortium, as a benefit of membership.

SPECIAL INTEREST GROUPS

M3G currently has four active Special Interest Groups: the Central Michigan TRS-80 Users Group (CMTUG) SIG, the CP/M SIG, the Heath/Zenith SIG, and the Osborne SIG. These SIGs hold additional meetings as their members desire, and may charge SIG dues in addition to M3G dues if the SIG so decides. SIG meetings are announced in the Meeting Calendar in ENERGY. Additional SIGs may be formed on any computer-related topic which M3G members may want.

EXECUTIVE COMMITTEE

President	Warren Wolfe	337-7672
Vice President	(Vacant)	
Secretary	Dean Shipman	355-6181
Treasurer	Joe Werner	337-7415
MACC Trustee	Frank Dolinar	351-1779
MC2 Delegate	Joe Werner	337-7415
CMTUG SIG Chairman	Lee Hodges	669-3258
CP/M SIG Chairman	Greg Martin	484-5850
Heath/Zenith SIG Chmn	Tom Trana	
Osborne SIG Chairman	Larry Tirone	484-3921

To join M3G, please fill out the following, enclose with your dues, and mail to M3G, c/o P.O. Box 1302, East Lansing, MI 48823, or come to a meeting.

NAME:______________________________.

ADDRESS:___________________________.

CITY, STATE:________________. ZIP:_____.

PHONE:___________. (home)___________. (office)

Dues:		
( )	M3G	$12.00
( )	CMTUG SIG	(no additional dues)
( )	CP/M SIG	(no additional dues)
( )	Heath/Zenith SIG	(no additional dues)
( )	Osborne SIG	$ 2.00

	TOTAL:	

Warren Wolfe
President, M3G

Data Basics
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There is a special holiday treat for M3G members in December: M3G is having a joint meeting with UPCO, The Users Personal Computer Organization, on the campus of Lansing Community College. On display will be the LCC IBM PC Network, which (according to rumor) supports 22 workstations. The presentation will be on December 17, 1985, at 7:30 p.m. sharp, in room 135 of the Old Central building of LCC, at the corner of Capitol and Shiawassee.

SPECIAL NOTICE TO MEMBERS

The Mid-Michigan Microcomputer Group currently has a problem: many of the members have difficulty attending the membership meetings at their currently scheduled times. I am one of those with such a scheduling conflict. The time has come to examine the procedure used to set our meeting dates.

The East Lansing Public Library has been kind enough to host us for several years of meetings at no charge; this service has been greatly appreciated. However, there are several problems with scheduling meetings at the library. The East Lansing Public Library schedules only two meeting dates for any one organization. Also, library functions override other groups' functions; this can be disruptive; the "third Thursday" meeting time of M3G has been violated several times in the last few months due to scheduling conflicts.

Since large numbers of M3G members have difficulty with the "third Thursday" meeting time, I propose that the meetings be changed to the third TUESDAY of each month, starting with the January meeting at the Foster Community Center, 200 North Foster, between Michigan Ave. and Kalamazoo in Lansing. The only problem I see with the Foster Community Center as a meeting location is that the building closes at 9:00 p.m. each night. The major advantage is that the scheduling of a room can be done for a year's worth of meetings, thus improving the reliability of our schedule. I am assured by the Foster Community Center that the third Tuesday is available to us.

Additionally, in order to help "clear out" members' monthly schedules, I propose the following: that the SIGs (special interest groups) within M3G meet at the Foster Community Center prior to the general membership meetings. Please let me know if these plans cause you trouble.

THE USER

by Joe Werner

Networks, Networks, Networks

In October, IBM announced a new Local Area Network (LAN) for the IBM PC family. IBM chose the PC family for the first introduction of its long-awaited Token Ring Network technique. This introduction surprised some observers, as IBM already had another LAN for the PC family, the PC Network (built for IBM by Sytek). Many people expected IBM to release the Token Ring first for larger systems, and later extend it down to the PC. IBM chose instead to release a product to compete with another IBM product. Let's look for a bit at the nature and impact of this competition.

First off, some background. The Token Ring Network is an idea for a network topology and access method quite different from the PC Network. In the Token Ring approach, the devices to be networked (called nodes) are wired (using baseband signalling techniques over twisted-pair wire not unlike telephone wire) to a common point, in a star-like manner. At the common point, the wires are connected to form a logical ring, the output of one node going to the input of the next. An "Idle Token" message is sent around this ring, being received by each node in turn and handed on to the next. When a node has a message to send, it waits until it receives the "Idle Token". The sending node changes the "Idle Token" into a "Frame", appending the data packet it has to send, and sends it along. Each node in turn receives the frame, looking to see if the packet contains its node address, and passing the frame along. The destination node recognizes its node address, copies the data packet into memory, and passes the frame along. The sending node ultimately receives its data packet back, removes the data from the ring, and generates a new token, allowing other nodes to transmit.

By comparison, the PC Network is a Broadband network using coaxial cable. Broadband communications involves modulating the digital data into an analog signal placed onto a coaxial cable not unlike cable-TV cable. (In fact, many of the same techniques and equipment are used in broadband cable installation.) The signal is transmitted from the transmitting node onto the cable and up to a central device usually called a Head-End or a Network Translator. The Head-End translates the signal to a different frequency, amplifies the signal, and rebroadcasts the signal to all devices on the cable. The CSMA/CD access method is used for the PC network. CSMA/CD stands for Carrier Sense Multiple Access with Collision Detection. (Ethernet, developed by DEC, Intel, and Xerox, is the most notable CSMA/CD network, although Ethernet does not use broadband cable techniques.) In this access method, instead of a token, devices remain quiet until they have data to send. When a node has data to send, it first listens to see if any other node is sending (Carrier Sense). If not, it begins to send, all the while listening on the receive frequency. If the sender senses a collision caused by another node beginning to transmit, the sender sends a special jamming signal for a period of time to ensure that all listeners see the collision, and then backs off for a random period of time, at the end of which it begins again by listening for other traffic and then beginning to transmit. Because of design of the access method, probability of a second collision between the same two nodes is very small.

Some comparisons are in order here. In an idle network, the CSMA/CD access method has little or no traffic on the cable, and little or no overhead on the node. On the other hand, on a token-passing network, the token is continually circulating when the network is idle, imposing some work on each node. But when traffic picks up, the token-passing method can guarantee an absolute maximum waiting time until a given node sees a token and can send a packet of data. On the other hand, the CSMA/CD network begins to suffer collisions as traffic increases; response time will suffer severely if a typical CSMA/CD channel is loaded beyond about 50 - 70 percent of channel utilization. Realistically, this is a rather heavy channel utilization. It is certainly not likely to be a problem in a typical small PC Network.

Another comparison is between the media. The IBM Token Ring Network uses baseband twisted-pair cable similar to telephone wire. While cheap, this wire is single-use; only network traffic can be sent over the wire. The IBM PC Network uses broadband coaxial cable (coax). This coax can be more expensive to install, but may span a rather large area if installed with care, and may have several different uses. Data, both from the PC Network and from other networks, video signals (internally generated or received from outside), and voice could all co-exist on the same coax.

Another comparison is speed and capacity. The IBM Token Ring Network can support up to 260 nodes on a ring (but only 72 nodes if the lowest-cost twisted-pair wire is used) over distances typically no greater than 150 feet (but greater if the appropriate IBM cabling system is used). The Token Ring Network runs at 4 Megabit per second. The IBM PC Network, on the other hand, can support the same 72 nodes over about the same 150 foot distance using cable and Translator supplied by IBM. However, with a properly-installed broadband cable in place, a higher performance Network Translator can be obtained from Sytek to extend PC Network performance to 1000 nodes over a network up to 5 Kilometers in radius. The PC Network runs at 2 Megabit per second.

Another comparison is IBM marketing and future support. IBM offers a fully-compatible NETBIOS interface for both networks, allowing application programs to interface to both networks in the same way. However, IBM has announced an intention to extend the Token Ring Network to permit attachment to System 370 devices, Series 1 computers, System 36 minicomputers, and other IBM products. IBM will also support SNA Advanced Program to Program Communications (APPC) (LU 6.2, PU 2.1) over the Token Ring Network. Additionally, IBM has implemented the Token Ring Network as an Open System, and expects TI to market a Network Attachment Chip set for the Token Ring Network, permitting foreign devices to interface inexpensively with the Token Ring Network.

To evaluate all of this is not easy. IBM's recent presentations suggest that the PC Network is a dead-end limited network. But Sytek, which admittedly has a vested interest in the PC Network's longevity, has recently introduced a 75 Megabyte file/print server to support the PC Network. Additional products can be expected. Moreover, IBM has announced a gateway between the PC Network and the Token Ring. This gateway today requires a dedicated PC and is limited to no more than 16 users, but we should expect improvements in this area.

Which network is best? I've been trying to avoid answering that question, since there is no easy answer. The CSMA/CD approach has been proven over many years, by Sytek, DEC, and many others. And broadband cable techniques have been refined over the past 30 years and offer today many services over the same cable as data. And having worked with other Sytek networks in recent years, I have a great deal of respect for the techniques used in the PC Network.

On the other hand, IBM has rather clearly pointed its direction. While IBM may continue to sell both networks for the forseeable future, I expect to see most of the development work go into the Token Ring Network. We can expect to see other vendors interface to it. (Apple is hinting at an interface between the Token Ring and their own LAN.) While I think the PC Network may be technically superior today, I think IBM's efforts will go toward promoting and enhancing the Token Ring Network. And while I'd rather recommend the PC Network as easier to install and maintain and expand, IBM will be trying hard in the near future to prove that wrong.

I certainly wouldn't rip out any PC Networks currently installed. And if you need a LAN today, I'd recommend the PC Network as a good solution for the next 3 to 5 years. If you've got the luxury of waiting, watch the Token Ring Network closely.

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DOCUMENTATION TECHNIQUES

by Ginny Werner

Last month I talked about the need for documentation. This month I want to talk a little about programmer documentation and user documentation and some of the forms of them.

The purpose of programmer documetation is to make it possible for someone to alter the code sometime after the code has been written. The person doing the altering could be you or it could be someone you've given the code to. The most important form of programmer documentation is comments. Last month I went into some detail about what kind of comments should be used. But there are other forms of programmer documentation and many of them are necessary if the program is large (several hundred to several thousand lines of code) or if more than one person is generating the code.

One form of programmer documentation is the design documentation. This describes the data structures and the overall logic of the code. You can use pictures and/or words to describe the data structures. A sample line of data can be shown and then an explanation given for each of the fields. Or a table might be used giving field name, position in the structure, data type, length, acceptable values, etc. To describe the overall logic of the code you might want to use pseudo code or a flow chart. The idea is to convert your scribbled notes into something that will be understandable later.

Another form of documentation is a cross reference. For each separate section of code this can tell you where a variable or subroutine is defined and where it is used. It may also tell you the type of the variable or subroutine. For a system that consists of several programms you may want to generate a cross reference that tells in which program a subroutine can be found and where certain functions are performed. It is often worth generating the cross reference by hand if necessary.

User documentation is usually a combination of written and on-line documentation. The purpose of user documentation is to explain what the code will do and how to make it do it. The amount of user documentation to provide depends on the size and complexity of the program. A simple "find" program may only require a one page document. A large data base program may require tutorials, menus, help files, etc.

The written documentation can include any or all of the following: tutorial, sample session, reference guide, glossary, and error message list.

A tutorial is written and/or on-line documentation. Its purpose is to give the user instruction, usually teaching one aspect of the program per "lesson".

A sample session shows the user what he might encounter while using the program and usually shows several aspects of the program.

A reference guide is meant to help the user to get started and then to help him when he does not remember how to do something. One type of guide is divided into sections that explain how to do a certain function. Another type gives one page per command and gives the commands in alphabetical order.

A glossary is meant to define terms that the user is unfamiliar with or that you might have a special meaning for.

An error message list gives an explaination for each error stating possible causes and corrections.

On-line user documentation includes menus, help files, usage messages, prompts and error messages.

Menus are used to give the user a list of the available options at this point in what they are doing.

Help files are used to give the user more detailed information about what they can do. They are accessed by means of a menu option, special function key, or a special response to a prompt (e.g. a question mark).

Usage messages tell the user what the program was expecting. They are used when the user did not give all the necessary parameters or when the user gave an invalid response (e.g. alpha characters when numeric were specified)

Prompts are also user documentation. They tell the user that the program is expecting input. If specific input is expected (e.g. first name) the prompt should say so. Fill-in-the-blank screens are a form of prompt.

Error messages tell the user that something has gone wrong. Try to be as specific as possible. (I hate it when PIP tells me I've got a read error on drive B when what it should really say is that there isn't a disk in drive B.) To conserve space you can use error numbers, but be sure to provide a listing of what they mean.

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Video: Graphics modes; 320x200, 320x400 with 32 colors; 640x200, 640x400 with 16 colors. Color palette with 4,096 possible colors. Supports real-time animation, Genlock interface available.

Audio: Two audio channels (RCA connectors). Built-in text-to-speech synthesis, music synthesis. MIDI interface available.

UPCO

Users' Personal Computer Organization

About UPCO:

UPCO was formed in early 1982 and is a non-profit organization of personal computer users in the Lansing area. Membership is open to anyone with an interest in personal computing. Most members have an IBM computer but there are also members with Tandy, Compaq, DEC, Leading Edge, DataVue, Columbia, and others.

Meetings:

UPCO meets the 4th tuesday of every month (except in December when Christmas interferes) at 7:30 p.m. in room 116 (auditorium) of the Agricultural Engineering building on the MSU campus in East Lansing. The Ag Eng building is located on the SE corner of Shaw and Farm Lane (across the street from the Planetarium). The structure of each meeting is usually:

7:30 - 7:45 Club announcements
7:45 - 9:00 Main presentations
9:00 - 9:15 Break - sign up time
9:15 - 9:20 Door prize awarded
9:20 - 9:30 Open question and answer

The times will vary according to the length of the presentations. To be eligible for a door prize you must be a paid member and in attendance.

Dues:

UPCO dues are $5.00 per person per 12 months and can be paid at the meetings or can be paid by sending a check made out to:

Dick Janson
8902 Bath
Laingsburg, MI 48848

Affiliations:

UPCO is a member of the Michigan Computer Consortium, and of the the IBM Exchange organization.

Newsletter:

UPCO members receive each month a copy of ENERGY, published by the Michigan Computer Consortium, as a benefit of membership.

Bulletin board:

UPCO maintains a RBBS for its' members from 6:00 p.m. till 8:00 a.m. (all day weekends) at 517-355-6594. Mesages may be left/read and software up/downloaded.

DAM list:

UPCO keeps track of data about members thru the DAM list. When each member signs up, a form is filled out indicating the users' hardware/software combination and this info is compiled and made available to each member from time to time. Only the summation of each category is made available and not the names so as to protect each members' privacy on this matter. Members are encouraged to keep their info as accurate and current as possible. The purpose of this list is for the situation where one member would like to talk with another member about a particular piece of hardware or software. The member should contact the keeper of the DAM list and find out if another member has the hardware or software of interest. The keeper of the DAM list will arrange for the two parties to talk.

Special Interest Groups (SIGs):

UPCO currently has one SIG formed around the 'C' language. Members interested in this SIG should contact Larry Shields at 517-337-0904 after 6:00 p.m. Other SIGs could be formed around the Tandy 1000 or the IBM PCjr, etc. Anyone interested in forming a new SIG should contact the UPCO president.

Free software:

UPCO makes available many diskettes free for the copying at the meeting. Each member should bring some pre-formatted blank diskettes to the meeting to do the copying. Blank diskettes will be sold at the meeting by UPCO ($1.50/black and $2.50/other colors) for the members' convenience.

Club software library:

UPCO has a club software library of over 60 diskettes that sell for $5.00 each to members. Members can fill out an order form at each meeting requesting the particular volume desired and turn this form over to the software librarian. Members are encouraged to contribute their own public domain software and in doing so will be granted a free diskette in return. UPCO does not tollerate PIRATING software by members.

Officers:

Office	Officer	Home phone
President................	Skip Osterhus....	517-321-3425
Treasurer................	Dick Janson......	517-675-7453
Software librarian........	Les Mack.........	517-339-8835
Secretary................	Doug Pfister.....	517-332-6069
Keeper of the DAM list....	Jerry Warren.....	517-321-7599

UPCO Notes

by Skip Osterhus

Old business:

October meeting: October 22nd, 1985 at 7:30 p.m.
Place: Room 116 of Ag Engineering
Attendance: 58
Door prize: Turbo Pascal
Winner: Richard Clore
Speaker: Frank Dolinar and Steve Melnyk
Topic: DBMS systems (dBASE and RBASE)
DOM: Yes
EXCHANGE: October 1985

1] There were some problems with the October DOM. If you experienced any problems with it please contact Les Mack for a replacement disk.

2] I will have any new or old issues of EXCHANGE at each meeting so if you are a paid member please feel free to come up and get your single copy of each month.

3] Please check you mailing label on each issue of ENERGY for correctness. Do not assume that if it is delivered to you that it it is correct.

4] Please check this column for the exact date and location of the meeting each month. Although the calendar in the front of each issue is correct most of the time, this column is the final word on the subject.

5] Don't forget to pay your dues if it has expired! You can tell by looking at your mailing label on each copy of ENERGY that is mailed to you or you can ask me at each meeting. At $5.00 per person per year, I think it is quite a bargain. I would like to thank all our loyal members who continue to purchase our disks (blank, colored, DOM's) Because of you contributions, the club is able to keep the dues low and mail ENERGY to all paid members. Thanks again!

6] As always I welcome suggestions from the membership for ideas on future meetings or directions the club should be going in. Your contributions to ENERGY are welcome any time. Don't be shy. Each member has plenty to contribute. You may call me anytime at 517-321-3425 (voice) or leave a message on the club bulletin board.

New business:

December meeting: December 17th, 1985 at 7:30 p.m.
Place: Room 135 of Old Central/LCC campus
Attendance: ?
Door prize: Surprise
Winner: ?
Speaker: Doug Pfister
Topic: The IBM LAN (local area network)
DOM: Yes
EXCHANGE: November/December joint issue

1] UPCO is attempting to form a PCjr SIG. If you are interested please contact Ray Robins at 517-694-1926 (home).

2] The December 1985 meeting of UPCO will be based on the IBM LAN and will be held at Lansing Community College on December 16th, 1985 in room 135 of Old Central (located on the NW corner of Capitol and Shiawassee).

3] The January 1986 meeting of UPCO will meet January 28th, 1986 at 7:30 p.m. in room 116 of the Ag Engineering building on the MSU campus.

4] A note to those of you who call the bulletin board. The privilege of using the board is extended to the UPCO membership by Les Mack and his staff. Les and his people volunteer their time and effort to make the board available to our members. You do not get automatic authority on the board to do everything merely because you have joined UPCO. You must ask for a higher authority by leaving a message (comment) for the SYSOP. This is clearly spelled out in the bulletins that are presented at the beginning of each logon. Some of you have either not bothered to read the rules or have ignored them completely by trying to perform a function you are clearly not authorized to! Continued abuse will insure that your authority never gets upgraded. Please don't abuse the privileges, and then leave a nasty comment about not having authority! If you can afford to have a computer, you can afford to read the bulletins and go by the rules!

5] Please note that in previous issues of ENERGY the club bulletin board was listed as 517-655-6594. Do not call that number! It is not the club bulletin board! The real number is 517-355-6594. I am sorry for any problems I may have caused.

MICRO scope — Lotus 1-2-3

Focus on *Software* — --- Thanks for the Memory

In last month's News Notes, we reported on the new versions of Lotus 1-2-3 and Symphony to be announced this fall. They will use better memory management techniques to expand the maximum spreadsheet size - in the case of 1-2-3, from 2048 to 8192 rows.

In addition, these enhanced versions will be able to use the new memory expansion boards which can make up to 4 megabytes (that's 4,000K) of RAM available to the PC.

Sounds great! But there's a hefty price tag attached. Besides the (as yet unannounced) price of the Lotus upgrade, you can expect to pay about $1000 for each additional 2 megabytes of RAM. And none of this power will be available until fall.

So let's take a look at some techniques you can use to streamline your spreadsheets and make the most of the memory your PC has now.

Remember the rectangle Both 1-2-3 and Symphony allocate memory for the spreadsheet in the shape of a rectangle, with the upper left corner at cell A1. A rectangle seems like a pretty efficient shape for a matrix of information like a spreadsheet. But if you think a minute, you'll realize that not all your spreadsheets are rectangles. They're probably L-shaped, or T-shaped (or worse).

Whatever the spreadsheet shape, Lotus or Sympony reserves space for all the empty cells it takes to make a rectangle starting at cell A1 and encompassing the entire active area of the spreadsheet. (A blank cell takes up about 4 bytes.) If your sheet is not a fully occupied rectangle, you're paying for cells you're not using. This will change with the new Lotus versions, which will save space only for the active cells in the spreadsheet. For now, keep that rectangle in mind.

It's easy to find the active area of the spreadsheet. Press **End**, then **Home**. You are now at the Outer Mongolia of your spreadsheet - the farthest right column and the lowest row that contain either an entry or a formatted cell. All of the cells between here and cell A1 are active cells. (This can be a big surprise.)

When you design a new spreadsheet, or add new data areas or macros to an old one, restrict the active area of the spreadsheet to a compact rectangle at the upper left of the work area. Avoid T and L shapes as far as possible.

Simplify your cells Cells with formulas or pointers to range names take up more memory than cells with just plain numbers. If you're pressed for space, try to avoid unnecessarily complex formulas, and use cell names rather than range names. This should only be done as a last resort. In general, the advantages of using range names and cell references far outweigh any memory that might be gained.

MICRO scope — Lotus 1-2-3

Focus on Software — --- Thanks for the Memory

Monitor memory use as you work Both 1-2-3 and Symphony can tell you how much of your computer's main memory is free. In 1-2-3, execute the /Worksheet Status command. This shows you what percent of RAM is still free. In Symphony, execute Services Settings. You'll see something like "21204 of 22720 Bytes (93%)". This means that a total of 22720 bytes (a little over 22K) is available for the spreadsheet, and 21204 bytes are currently free, which is 93% of the total. If free memory drops below 5%, the Mem indicator will be displayed at the bottom of the screen as a warning.

Dial direct You can save a little space by not using the Lotus access programs. Start 1-2-3 by keying **123** rather than **Lotus**. Start Symphony with **Symphony**, not **Access**. Sacrificing your print buffer program will save you a little space, too.

Oops - "Memory Full" What should you do if the dread message appears? Deleting rows or columns and erasing ranges won't help much, since they don't really change the active area of the workshet.

First, press **End** and **Home** to find the boundaries of the active area. You may have accidentally entered data or formatted a cell in Outer Mongolia, or violated the Rectangle Rule. If that's the case, or if you've been adding and deleting columns and/or rows, a simple /File Save and /File Retrieve may solve the problem. (To be on the safe side, try all of these tips only after you've saved your file and made a **copy** of it!)

Stronger measures If a simple save and retrieve didn't help, try /File Xtract Formulas and /File Retrieve. /File Xtract Formulas saves a range of cells to a separate spreadsheet. It preserves display formats and column widths, named cells and ranges and graphs, referenced cells and ranges, and print settings.

When you do **/FXF**, be sure that you are including all of what you consider the working area of the spreadsheet, and no more than that. After you've pointed to the range, press the . (period) key several times to move around the boundaries of the range and confirm that you've gotten everything. Use a new file name for the Xtract, and retrieve the new file. Check to be sure everything's there. All your range names and spreadsheet formatting should be intact.

If this didn't gain you enough elbow room, you may need to do some surgery on your spreadsheet. Find the areas that are farthest out of line with the basic rectangle and move them so that the shape is more compact. Then try the /File Xtract Formulas and File Retrieve. Be careful of the effect of any moves on your cell and range references. Edge-of-spreadsheet wraparounds and references that point downward can cause errors in formulas.

It's possible that you won't even have enough room to move things around to streamline your spreadsheet. There's help for that, too, and we'll show you how in next month's MICRO scope. If you need help before then, call Micro Support.

From "MICRO scope" - reprinted with permission of Farm Bureau Insurance Group - Lansing, Michigan

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by

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APPLE LUG NEWS

Apple LUG Officers

President: Gary G. Martin	822 W. Willoughby Rd., Lansing	394-0115
Vice-President: Jeff Howell	5120 Okemos Rd., E. Lansing	349-3831
Treasurer: Bruce McConnell	13805 Schavey Rd., DeWitt	669-5642

PROGRAM THIS MONTH

For our December meeting we are planning to have Tim Hardy with us. Tim is a Support Analyst for Apple Computer at the Detroit office. We are planning on having the new ImagewriterII to demonstrate and also the Color II monitor and possibly a few other things as well.

We will be meeting back in Room 102 at S. Kedzie Hall again on December 16,1985 at 9:30 a.m.

PRODOS vs. DOS 3.3

By Bruce McConnell

Since the introduction of PRODOS there has been a great deal of confusion among DOS 3.3 users. Disk Operating Systems are usually invisible to the non-programmer, but anyone getting deeper into the Apple will soon need to understand the differences between the two systems. I will try to shed a little light on the subject.

To provide Apple users with a more versatile operating system, Apple decided to make some basic changes to DOS 3.3. Certain commands were deleted, some were added, and others were given new properties

Commands that no longer exist are INT, MAXFILES, INIT, MON, NOMON, AND FP, so forget em.

Old commands that are now "NEW AND IMPROVED" are as follows.

APPEND: Will now append data to any file type; also can be used with random access files.

BLOAD: Can now be used to load the binary image of any file type,while specifying location and length.

BRUN: Similar enhancements to BLOAD.

BSAVE: Now able to save any portion of memory to any type of file by naming starting address and number of bytes, or ending address.

CATALOG: This command now gives you an eighty column directory. CAT displays an abbreviated directory in forty column.

CHAIN: Now works for Applesoft programs, allowing you to chain to a specified line number of another program.

CLOSE: All opened files must be closed from within a program. If you don't, data may be left in the file buffer and not transmitted to disk.

IN# & PR#: these commands can now be used to point to machine language routines for character input and output. Can be used to set address of a slot's I/O routines.

OPEN: Can be used to open any type of file. A file buffer is allocated for each file opened. No need for MAXFILES.

READ: Now uses F(ield) and B(yte) parameters instead of POSITION to determine location in file to perform a READ.

RUN: You can now specify the line # of a program at which point you want to start running.

WRITE: Same new options as READ.
New Prodos commands available now are as follows:

CAT: 40 column directory.

CREATE: Used normally to create a directory file.

FLUSH: writes all data to disk that may be temporarily stored in file buffer.

PREFIX: Allows you to set a pathname to a directory file so that you don't have to keep typing the complete pathname every time you access a file in that directory.

STORE & RESTORE: STORE command will place all of the values for the variables defined in a running program in a file of type VAR. The RESTORE command loads the contents if the VAR file into memory.

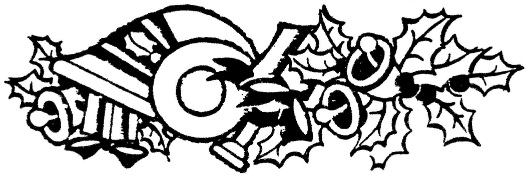
-(DASH): Used instead of simple RUN, BRUN, or EXEC. Does not allow use of parameters.

FRE: A much improved garbage collecting routine. Very fast. Use it with a control-D.

TRACE: This command now works with PRODOS. It does not work with DOS.

Anyone wanting to get any deeper into PRODOS should order *BASIC PROGRAMMING WITH PRODOS* and *THE PRODOS REFERENCE MANUAL* from your Apple dealer. These two manuals will list for around $25.00 each. If your not involved with assembly language, the first manual will probably suffice.

I hope this little recap answers more questions than it raises.



THIRD ANNUAL AUCTION

Last month we held our third annual auction. Well over 70 people attended to find bargins on Apple,IBM, and other items of interest to all. Apple L.U.G. would like to thank all of you who attended and made this auction a sucess.

We would like to also thank those of you who helped with getting everything ready and for the announcement in the papers about the auction also. We hope to see everyone back next year and hopefully many more.

DISKETTE SPECIAL

For the month of November, Computer Consignments has offered a special price on *PINNACLE SERIES* diskettes by Wabash. We would like to thank Dick for making this offer advailable to members of Apple L.U.G.

His store is located at: 2820 South Cedar, Lansing, near Greenlawn. The phone number is 394-4408.

VIEWTRON FOR MODEMS

Viewtron, a new on-line data base system has started for-pay-service in this area. The company has made a number of "starter kits" available to the Apple L.U.G. These kits allow those of us with modems to explore the new system with free on-line time (one hour)! Don't miss out on this. Contact Gary Martin to get your kit if you have a modem. There is a contest with Viewtron but you have to register soon to be eligible.

EDUCATION S.I.G.

Chairperson: Judy Haught

The Education S.I.G. will meet on the 2nd Saturday of the month. They will meet at 9:30 a.m. at the following location:

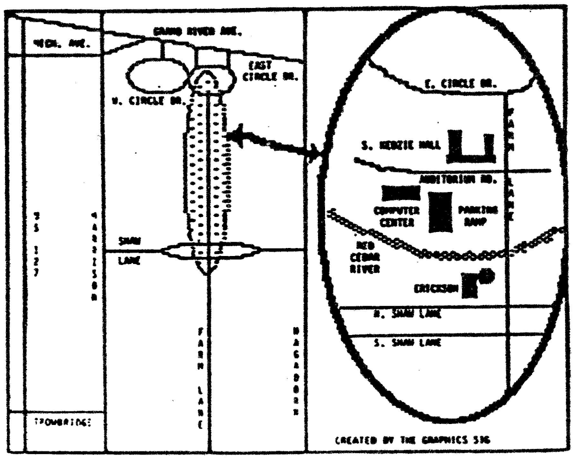
Computer CoOp
5127 - C Aurelius Rd.
Lansing, MI 48910
(Corner of Aurelius and Jolly)
Ph: 882-3041

L.U.G. BOARD MEETING

The L.U.G. Board meeting for December is on the 6th at 7:00 p.m.The Board meeting for January will be on the 2nd at 7:00 p.m. The location is the Foster Community Center on Foster Street near Michigan Avenue, in Lansing.

WORD PROCESSING TUTORIAL

In January we will be offering a tutorial on *word processing*. We have currently set up a date of January 25th in the morning. In the next issue we will have more information about the tutorial, but the way it is tenatively planned, we will be using three different programs. The Bank Street Writer, a very easy to use, menus driven program; Appleworks, also easy to use, but more powerful and integrated with a data base manager and a spreadsheet. Altogether, a very powerful program. Lastly, we will take a good look at AppleWriter //. This is by far the most powerful of the three word processors that we will be looking at. It is also the most difficult of the three to master. We hope that this introduction will stimulate your interest in these programs. We would like to solicit indications of interest, both in attending the tutorial and in assisting in the presentation. Please let one of the LUG Officers know if you are interested.



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IAC DISK # 37 CALCSHEET TEMPLATE DISK

(This is L.U.G. Disk #94)

This disk originated with the San Francisco Apple Core and The Original Apple ///ers. It is a series of templates that were originally designed to be used with the Apple /// and Visicalc. Using the facilities of the new ProDOS ™ operating system, they were moved into the DOS 3.3 environment.

These templates will work with any spreadsheet program which uses Visicalc™-type commands. This includes IACCalc™. Documentation is included on the disk: this takes the form of the 'CATALOG' file, which is to be read from within the spreadsheet program. The other spreadsheet templates include documentation within themselves. At the top of the spreadsheet template is a pointer to where you will find the instructions. You will have to change the column width to see them in their entirety.

A listing of the spreadsheets follows:

Household Management Templates -	
Net Worth	Computing personal net worth
Budget Template	Set up home budget
Income Tax Demo	Tax computation demo
Comparative Shopper	Select minimum price
Comparative Shopper Demo	Demo of Comparative Shopper
Cheque Master	Cheque ledger sheet (also for Small Business)
Statistics -	
Linear Regression	Linear regression curve fit
Exponential Regression	Exponential curve fit
Spearman Rank Diff	Compute Spearman rank diff.
Pearson Product	Compute Pearson r product
Financial -	
Stock Analysis	Compute present stock value
Business -	
Small Bus Start Up	Compute 1st year profit/loss
Avon Records Demo	Demo of personal business profit and tax
Bank Reconciliation	Reconcile business statements
Utilities -	
Catalog	Catalogs contents of this disk
Template Documentation	Disk documentation

APPLE L.U.G. WELCOMES YOU!

"WHO"

Apple L.U.G. *(Lansing Users Group)* is an organization of Apple users in the mid-Michigan area. It was organized in early 1981 to provide a forum for the exchange of information and a means of helping new users to better understand and use their equipment. **Apple L.U.G.** extends a cordial welcome to anyone interested in learning more about Apple microcomputers software, hardware, etc.

"WHAT"

Our meetings are informal and consist of thirty minutes of announcements, comments, news, questions and answers, etc. This is followed by a program lasting about an hour. Program topics include demonstrations and reviews of hardware or software followed by questions and answers. Visitors are always welcome.

"WHEN"

Apple L.U.G. meetings are held at 9:30 a.m. on the third Saturday of each month.

"WHERE"

Apple L.U.G. usually meets in Room 102, South Kedzie Hall, Michigan State University, East Lansing. It is located at the northwest corner of the intersection of Farm Lane and Auditorium Road.

"WHAT ELSE"

1. Disk Library - **Apple L.U.G.** has a library of over 185 disks containing well over 2,000 public domain software programs, which are offered for sale to members at reduced rates. Disks are purchased from the International Apple Core, other Apple user groups and other organizations. The Disk Library contains a variety of useful programs for computer hobbyists, for students, for business and recreational applications.
2. Newsletter - The Apple L.U.G. News is no longer published independently, but has been incorporated into **ENERGY** magazine, which appears monthly, and contains news from the five member user groups which make up the Michigan Computer Consortium. The aim is to provide **Apple L.U.G.** members with the best possible guide to *all* computer related activities within the local area, in addition to monthly program announcements.
3. Tutorials - Experienced Apple users within the club conduct tutorials on topics of special interest to the membership. Members pay reduced rates.
4. Special Interest Groups (SIG) - Members with specialized problems or interests are encouraged to join others in SIG's (*e.g.* Communications, Education, Graphics) which meet independently of the monthly meeting.

"HOW MUCH"

Membership dues are $12 for the calendar year or $1 per month prorated. Make checks payable to **Apple L.U.G.** and mail to:

Apple L.U.G.
P. O. Box 27144
Lansing MI 48909

LANSING
USERS
GROUP

C.H.A.O.S. WELCOMES YOU TO THE WORLD OF THE

ATARI

CHAOS is not affiliated with Atari

CAPITOL HILL ATARI OWNERS' SOCIETY

C.H.A.O.S IS:

C.H.A.O.S is the Capitol Hill Atari Owners Society. CHAOS meets every third Saturday in the Foster Community Center (200 N. Foster). The meetings run from 9am-12 noon. The presentations at meetings include new hardware and software and news. Business is limited at general meetings to make the meetings more enjoyable.

C.H.A.O.S MEETINGS ARE:

FUN, EXCITING, INFORMATIVE, AND CHAOTIC

You will have to see a CHAOS meeting to believe it. The discussions are lively, with lots of news and information. The presentations are of general interest. The speakers arrange their presentations to be understood by the beginners in the group as well as the experts.

The presentations at any meeting may include wordprocessors, games, databases, educational applications, utilities, hardware, and hardware modifications and enhancements.

There are experts and beginners in CHAOS and there are Special Interest Groups periodically when interests arise.

C.H.A.O.S. IS YOUR BEST COMPUTER PERIPHERAL

In addition to receiving a monthly newsletter that will keep you informed of local, national, and international events in computers, you will have access to the largest Atari public domain library of programs in the world. C.H.A.O.S. HAS OVER 600 PROGRAMS IN ITS LIBRARY.

The CHAOS library is growing every day. This can save you a great deal of time and money. Programs that you write can be added to the CHAOS library. If you would like a listing of the programs in our current library, please send a large self-addressed, stamped envelope. Include an extra 50 cents if you are not a CHAOS member to cover printing costs. Mail your request to CHAOS, P.O. Box 16132, Lansing, Mich 48901.

C.H.A.O.S. RUNS A BULLETIN BOARD SYSTEM

CHAOS runs a Bulletin Board System that you can dial into if you own a modem. The telephone number for the BBS is 517-371-1106. CHAOS's BBS is one of the most sophisticated systems in existence. It provides a means of leaving messages for other computer owners and a means of obtaining FREE software. Join CHAOS now and get your password right away.

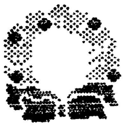
C.H.A.O.S. PUBLICATIONS LIBRARY

CHAOS has many books and other publications about the Atari computers that can be checked out by members. Each month CHAOS receives newsletters from other Atari clubs from around the world.

HOW TO JOIN C.H.A.O.S.

If you would like to join CHAOS then fill out a membership form or send your Name, Address and $12.00 (Yearly membership fee) to:

CHAOS
ATTN: MEMBERSHIP
P.O. BOX 16132
LANSING, MICHIGAN
48901



CHAOS's Officers and Leaders

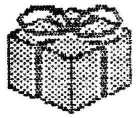
Position	Name	Phone#
President:	Leo Sell	393-7792
Vice president:	Lance Ward	393-1357
Treasurer:	Rob Peck	887-0327
Newsletter Editor:	Mike Aldrich	394-2412
Membership Coord:	Gary Ferris	393-2593
Program Librarian:	Rodney Shelton	676-2794
Pub. Librarian:	Richard Evans	351-2381
Rec. Secretary:	Sandy Theisen	882-0124
Cor. Secretary:	Dick Peterson	485-7727
Program Coordinator:	Guy Hurt	484-7675
BBS Sysops:	John Nagy	487-5646
Remote BBS Sysop:	Mike Clewley	627-7807

C.H.A.O.S. NEWSLETTER EXCHANGE

If your Atari users group would like to exchange newsletters with CHAOS PLEASE send your newsletter to the following address:

C.H.A.O.S.
ATTENTION: NEWSLETTER EXCHANGE
P.O. BOX 16132
LANSING, MICHIGAN
48901

Please update you current list of CHAOS addresses, officers, and BBS number with the previous information.



PRESIDENT'S CORNER

by Leo Sell

Dear Santa,

Here is my C.H.A.O.S. Christmas list for 1985:

1. My biggest wish is for involved people. Many jobs need done and too often the jobs are done by the same few people.

2. A spirit of giving on the part of the membership. A sense of "what can I do to help the club? " instead of "what will the club do for me?"

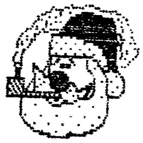
3. An understanding on the part of people that with C.H.A.O.S. as with almost anything, you will get more if you give more.

4. A new sense of excitement and sharing that the members would express to other Atari owners who are not C.H.A.O.S. members, thereby increasing excitement and our membership rolls.

5. A threefold increase in membership so that we can offer bigger and better programs and services. Help the members of C.H.A.O.S. realize that with sufficient membership we could have programs involving visits from Atari itself and from major software firms.

I know this is a long tough list. I could have put on it such things as an Atari 520ST for myself or a hard disk drive or software or other such things. But, I really believe the more critical and important needs are in the list I just gave you.

Thanks Santa,



Signed,

Little Leo

CHAOS BBS #

517-371-1106

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I MADE THE THIRD SCREEN OF APPLE PANIC

WHEN THE "CORES" FINALLY DID ME IN

I GUESS I SHOULD GIVE UP MY COMPUTER GAMES

AND GO BACK TO GAMES LIKE GIN

BUT I THEN FOUND A GAME THAT I CAN WIN

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I CAN GET THAT CHICKEN ACROSS THE ROAD

AND I DON'T EVEN HAVE TO CHEAT

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ST BASIC - Software Review

by Brian Goluska

Eureka! ST BASIC from Atari! An 163 page manual plus appendices! Sample programs! GEM calls! Window control from BASIC! A "full screen" (actually "full window") BASIC editor!

If I sound enthusiastic, it's because I am. I've often said I wouldn't buy an IBM, because I didn't want a machine that did less than my Atari 800 (especially meaning sound and graphics). Then I bought an ST, and couldn't even use it as a calculator. I was even thinking of saving money to buy the [unnamed other machine]. Then ST BASIC arrived.

Since I've only had ST BASIC for a couple of weeks, I can't claim to know all it's features or limitations. There are a number of features that immediately have impact on the BASIC programmer who used the Atari 800:

Professional Product: BASIC doesn't crash easily, as long as you don't try randomly POKEing memory. The manual covers one command per page, with frequent code examples. BASIC comes on a 3 1/4 inch disk without copy protection.

GEM Interaction: ST BASIC seems to "fit" with the operating system. It's hard to explain when going to a window-mouse-keyboard system becomes natural, but ST BASIC fits.

Extended Commands: AUTO line numbering. RENUM line renumbering, DELETE ranges. WHILE/WEND loops. Label names as well as numbers for GOTO and GOSUB! ERASE arrays to redimension them or reclaim space. PRINT USING. CLEARW n where n= window 0 through 3; also OPENW, FULLW, and CLOSEW. Integer and floating point numbers. DIRectory commands from within BASIC. FN functions as in other BASICs (a function is like a subroutine, except the code is usually executed in line instead of branched to).

Graphics: LINEF replaces PL. and DR., and COLOR has parameters for style and index (patterns to fill areas, rather than XIO.). If you could write a program to graph your golf scores in 5 minutes the first day you got your Atari 800, you can do the same in 5 minutes with ST BASIC. A graphics buffer exists to do very fast ST screen refresh, but I have not explored it much yet. A very important thing to remember is that the amount of screen data on an 800 is 8K for the highest resolution. A 640 x 400 paper white ST screen is 32K. A lot of bytes to move, scroll, or copy.

All in all, any 800 BASIC program that has alpha-numeric output without special display lists or machine language subroutines should easily convert to the ST. Non-animated BASIC graphics should convert easily also. Special graphics and sound routines will have to have special routines, just as 800 BASIC needed special routines for player-missle graphics and character set redefinition.

Despite my enthusiasm, I should mention some of the possible drawbacks of ST BASIC. If you boot a half Megabyte system and load BASIC, how much FRE(0) would you expect? How does 5K sound? With the ST BASIC manual, 2 simple steps free another 62K, to give ST BASIC a reasonable amount of space. But with half the ST memory for TOS, and another 140K for ST BASIC, and 32K for the screen, half a Meg gets reduced pretty quick.

The architecture of the ST, 32K of bit-mapped screen graphics, also gives some interesting speed considerations. For example, when running a BASIC program that puts output to the screen, and causes the image to scroll, the size of the output window affects the speed of the program. The same program with a small window runs faster than it does with a large window.

ST BASIC is fairly fast though, much faster than the LOGO originally delivered with the ST. The ST processor, of course, is very fast. It just takes some care to avoid making it move too many bits around or do too much overhead. The large size of ST BASIC contains many, many extended commands that will amaze the 800 user. In conclusion, ST BASIC makes the ST a viable machine.

(Author's note: This article is the first written by me on the ST. HabaWriter was used as the word processing program.)

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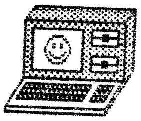

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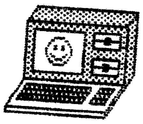

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MAKES SECRET LONG-DISTANCE CALLS TALKING TO "OTHER COMPUTERS", HIDES PHONE BILLS FROM SPOUSE. HACKING COUGH MAY OR MAY NOT BE IN EVIDENCE.

PATIENT COMPLAINS OF BULGING, RED TIRED EYES AND HAS STRAINED OR BLANK EXPRESSION, FROM STARING AT TOO MANY MONITOR SCREENS.

NO KNOWN CURE!!!

TREATMENT:

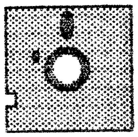
REGULAR MEDICATION IS USELESS. DISEASE IS ALWAYS "TERMINAL," THERE IS NO ESCAPE. ONLY CONTINUE RUN WITH NO GOTO STATEMENTS.

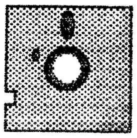
ONCE DISEASE BREAKS, PATIENT SHOULD START TO ATTEND C.H.A.O.S.! BECOMING A MEMBER WITH LIBRARY SERVICE PRIVILEDGES, WILL NOT HELP CONTROL "TERMINAL COMPUTER-ITUS", BUT WILL PROVIDE SELECT NEW OPTIONS.

HOME REMEDY: GIVE PATIENT WIDE BERTH, AND AN OFFICE IN A QUIET CORNER IN THE HOUSE WHERE HE OR SHE CAN BE ALONE WITH THE COMPUTER.

SUGGESTION: EVEN SEMI-LITERATE USE OF COMPUTER-EZE BY OLD FRIENDS AND RELATIONS WILL GARNER A GLIMMER OF RECOGNITION FROM THESE DAZED ENTHUSIASTS. (TERMS SUCH AS "DEBUG, DISKS, AND BITS" ETC.)

CONVERSATION OVER GAME TOPICS IS ALSO THERAPUTIC TO FURTHER FAMILY CONTACT.





Product Review: HABA HIPPO-C Compiler
(for the 520 ST)

by Brian Goluska

HABA HIPPO-C cost me $60, ordered before it was released. I have since seen it advertised for more.

The HABA HIPPO-C Compiler arrived just in time for me. Though I've read some glossy magazine articles that try to be upbeat about LOGO, it seems to be a limited language, and LOGO seems slow in it's ST interpreted implementation.

The HABA HIPPO-C Compiler works. Since I didn't know C, I got a generalized textbook and began working through the examples using the HABA HIPPO-C on the ST. Standard C examples, published long before the ST or HABA product, compiled and ran. And I could finally do something that shows the ST is fast. The following program counts to a million and one:

```
main()
[
     int i=0;
     while (i<=1000000)
           [
            i=i+1;
           ]
     printf("i is %d,\n",i);
]
```

When compiled, this program counts to a million in 21 seconds on the ST.

The product comes with its own editor. Using this to create and compile a C program is not too hard, but it is disk intensive, and it will be quite a bit different for those used to interpretive languages. As with any new product, certain conventions exist, and these must be followed exactly. I found myself continually using the manual, because my fingers didn't know the conventions (i.e. which shifted function key is the insert line? the delete line? the save file?). The procedure is generally, edit a source file (which loads it from disk), save the file, compile the file (1st pass), automatic 2nd pass on compiler, link the file(to libraries of external routines, especially important for GEMDOS, VDI, and AES), rename the output, and then run the file by keying in the new name. The whole procedure only takes 1 1/2 to 2 minutes for a small program, however.

Once your program is done, you can then copy the object code and install it as an icon under TOS, to open and execute it with the mouse from the TOS menus. Once again, picky conventions are used - the program must be named with the .PRG suffix to be recognized as a program by TOS.

Documentation with HIPPO-C is a 52 page printed handbook, adequate for getting started with the product. It is not a C manual. Fortunately, many C textbooks are available, even at local bookstores. Almost nothing is said about Atari TOS, except the names of GEMDOS, VDI, and AES routines supported. Without the expensive Atari developer's documentation package, I have little source for documentation on these. Of course, this is Atari's lack of documentation and not Haba's. Haba does include a set of sample programs, for initializing windows, reading the keyboard and mouse and more, and these are very wellcome.

I do have some minuses to report on this product. If any of them are due to my own misunderstanding, I apologize to Haba. First, floating point and double precision are not supported. Second, not all TOS routines are supported (maybe because of the floating point?). For example, a program published in ANTIC immediately declares an external double routine "giaccess()". This is therefore not useable with HIPPO-C. Third, I don't like the copy protection scheme. The manual says to copy the disk, but it will not run without the original in drive A. Fair enough, I thought, we initialize the original then work with the copy. Unfortunately, this did not work, and instead I was asked to replace the disk in drive A every 20 seconds. I find myself working on the original (and running out of disk space) instead. It may be that no one should try to write programs on a one-drive system, but it's still a drawback.

In summary, my evaluation of HABA HIPPO-C is positive. It's my first software purchase for the ST, and well worth the price.

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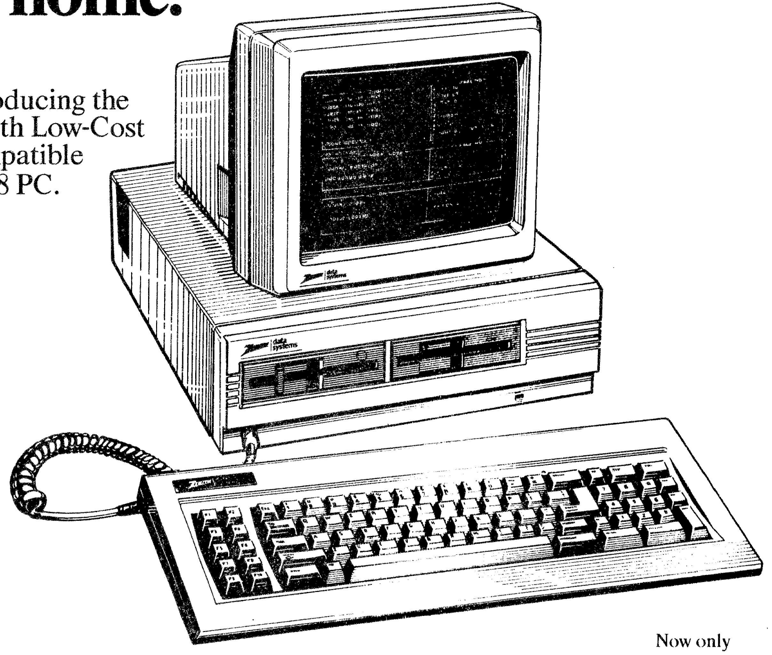

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HARDWARE PROJECT

By Dale Knepper
CCUG VP/Program

My first impression of the "FAT COCO" article in the September 1985 issue of HOT COCO Magazine was that of another idea for the supertechnician so I just read it and then set it aside. About six weeks later an ad in the Wheeler Dealer caught my eye because of the low price for a 16K non-extended TRS-80 Color Computer. The purchase of this unit and discussion about it with Hugh Betz got us to thinking about upgrading it to 64K. Talking about the new low prices of 64K chips led to the idea of going all the way to 256K since it would cost only $2.00 more for each of the eight chips.

I ordered eight (41256) chips from the supplier mentioned in the article at $2.69 each and we set about getting the rest of the items needed to build our "Banker Board". I also ordered the utilities diskette described in the article and by the time it arrived, Hugh had completed and checked out the circuit board. All that was left to do was plug in the 256K chips and the six other ICs and wire up the switch and the single wire to the main board. Since we were working on a "285'F'" board, we did not bend the pin #1s up for soldering, but used the connecting trace on the main board and ran our wire to the center pin of the three where we had removed the 64K jumper.

A trial run of the test software indicated that all banks were operational. Two of the programs included on the diskette were "Backup" and "Ramdisk". I enjoy being able to make a single-pass backup without having to do all the swapping back and forth of disks as I have been used to doing. The instantaneous loading of programs when using the "Ramdisk" is nice also.

It will be interesting to see what the writers of the article come up with next in the areas of software and additional memory modifications as they implied that there may be a 512K in the future. If it is as simple to do as we found this one was, there will be many CoCo users out there going the same route and expanding their units. We have figured our costs for the jump from 16K to 256K to be about $55.00 for the Banker unit and $20.00 for the Extended BASIC upgrade for a subtotal of $75.00. When this is added to the $30.00 for the used 16K CoCo the total is $105.00.

At the full retail prices in the latest Radio Shack flyer of $89.00 for a 16K computer, you could end up with a 256K "Banker" CoCo for almost the same price as the 64K unit listed in that same flyer. The 16K to 64K upgrade can be done for about $5.00 in chips and a few minutes of time. It will be interesting to see how many CCUG members end up with their own 256K FAT COCOs. We will be demonstrating our unit at the next users' group meeting on December 7.

****

The next meetings of the Greater Lansing Color Computer Users Group will be held on December 7 and January 4 at 1:00 PM in the East Lansing Public Library. Guests are welcome. Members are reminded to bring in their hardware.

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